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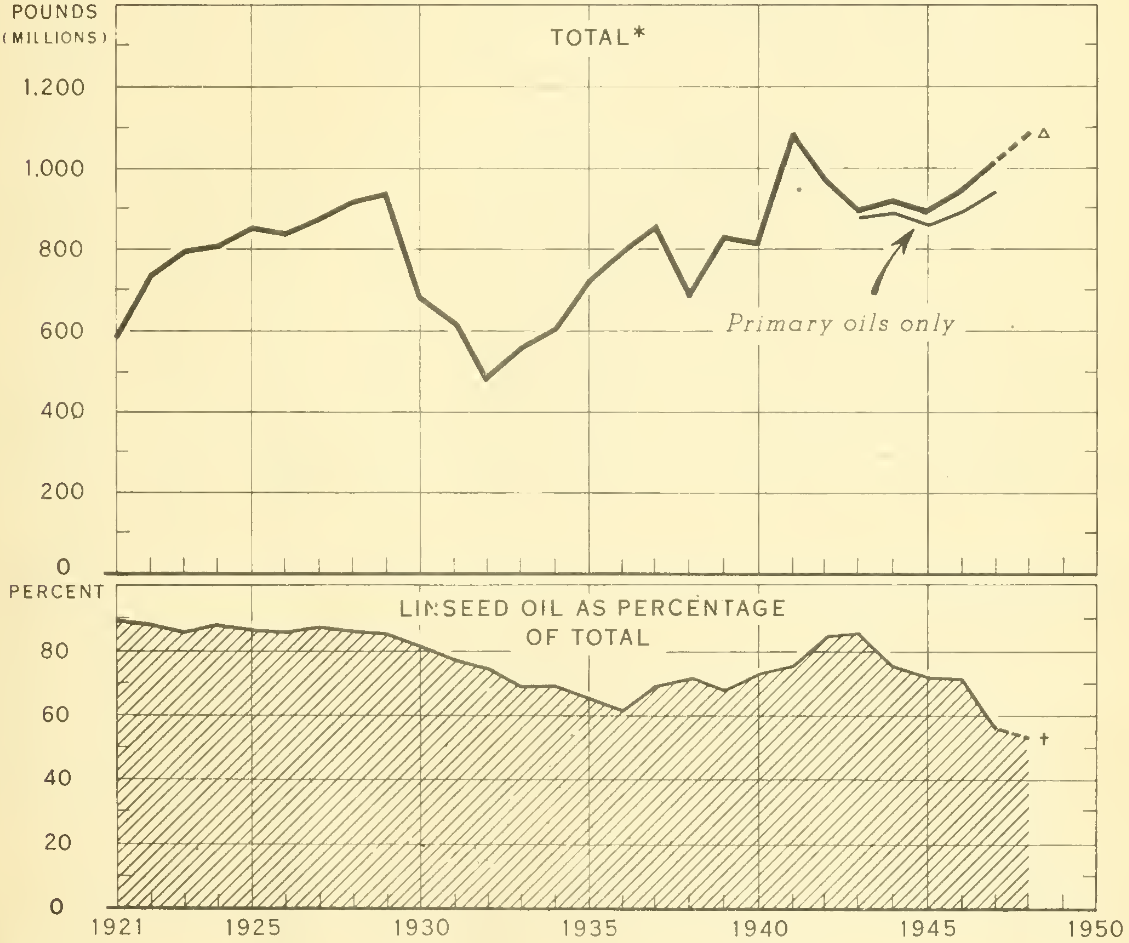
EXTENSION ECONOMICS

THE Fats and Oils SITUATION

BUREAU OF AGRICULTURAL ECONOMICS
UNITED STATES DEPARTMENT OF AGRICULTURE

FOS-126 BAE JULY 1948

TOTAL USE OF OILS AND FATS BY THE DRYING-OIL INDUSTRIES, AND USE OF LINSEED OIL AS A PERCENTAGE OF THE TOTAL, UNITED STATES, 1921-48



* PRIMARY OILS AND FATS 1921-42, TALL OIL AND SECONDARY FATTY MATERIALS ALSO INCLUDED AFTER 1942
△ JANUARY-MARCH USE MULTIPLIED BY FOUR
† JANUARY-MARCH 1948

U. S. DEPARTMENT OF AGRICULTURE NEG. 46826 BUREAU OF AGRICULTURAL ECONOMICS

Total use of oils and fats in 1947 by the drying-oil industries, including use of tall oil and secondary fatty materials, was second only to 1941, but was not as large as would be expected in view of the record peacetime rate of industrial production in 1947. Vegetable oils are meeting increasing competition in drying-oil uses from synthetic resins, casein, and vegetable proteins.

Use of linseed oil in drying-oil products declined in 1947 to less than 60 percent of total use of oils and fats in these products, the lowest percentage of record. Drying-oil uses of soybean oil and tall oil increased materially in 1947.

Table 1 .- Wholesale prices per pound of fats, oils, and glycerin at specified markets, and index numbers of prices of fats and oils, June 1946 and 1947, April-June 1948

Item	June		1948		
	1946	1947	April	May	June
	Cents	Cents	Cents	Cents	Cents
Butter, 92-score, Chicago	51.5	62.4	80.4	79.7	80.9
Butter, 92-score, New York	52.2	63.2	82.8	80.1	80.2
Oleomargarine, dom. veg., Chicago	19.0	36.0	37.4	40.0	40.5
Shortening, cottonseed, hydrogenated, 10-drum lots, N. Y.	17.8	31.2	34.6	37.2	37.8
Shortening, cont. animal fat, 1-lb. cartons, Chicago	17.0	31.7	34.9	35.8	37.3
Lard, loose, Chicago	13.0	16.7	21.2	20.5	20.5
Lard, prime steam, tierces, Chicago	14.0	19.1	23.4	23.0	23.0
Lard, refined, 1-pound cartons, Chicago	15.8	20.2	25.2	24.0	24.2
Oleo oil, extra, tierces, Chicago	13.0	18.5	23.2	26.9	29.2
Oleostearine, tierces, N. Y.	10.5	1/ 16.5	23.5	25.8	27.9
Tallow, edible, Chicago	9.9	13.0	19.1	17.2	18.0
Corn oil, crude, tanks, f.o.b. mills	12.8	21.0	28.1	33.5	34.1
Corn oil, refined, drums, New York	16.6	26.9	35.1	42.4	42.2
Cottonseed oil, crude, tanks, f.o.b. S.E. mills	12.8	21.9	29.2	34.6	35.4
Cottonseed oil, p.s.y., tank cars, N.Y. (nearby futures)	2/ 14.3	23.9	30.6	36.2	36.1
Cottonseed oil, refined, drums, New York	16.5	28.5	35.8	42.0	42.0
Peanut oil, crude, tanks, f.o.b. mills	13.0	22.0	29.1	33.2	33.8
Peanut oil, refined, drums, N. Y.	16.5	29.1	35.9	41.8	42.0
Soybean oil, crude, tank cars, midwestern mills	11.8	18.2	24.5	26.3	27.3
Soybean oil, refined, drums, N. Y.	15.4	24.8	29.7	32.2	33.0
Coconut oil, crude, tank car lots, Pacific Coast 3/	4/ 11.0	15.3	27.0	28.2	28.8
Coconut oil, refined, drums, New York (tax included)	5/ 12.8	21.2	30.5	34.5	34.5
Olive oil, imported, edible, drums, N. Y.	---	87.5	59.9	59.6	60.0
Olive oil, California, edible, drums, N. Y.	58.7	77.5	58.4	56.7	56.7
Olive - oil foots, domestic, drums, carlots, N. Y.	18.0	---	25.2	25.2	24.8
Sesame oil, tanks, Pacific Coast	15.2	38.0	29.0	34.0	33.5
Tallow, inedible, prime or extra, carlots, Chicago	8.6	12.4	17.4	13.8	15.8
Tallow, No. 1, inedible, Chicago	8.4	11.9	16.7	12.7	14.6
Grease, A White, Chicago	8.8	12.1	17.2	13.3	15.4
Menhaden oil, light pressed, tanks, N. Y.	12.2	22.0	21.0	21.0	21.0
Sardine oil, crude, tanks, Pacific Coast	8.9	18.2	19.0	19.0	19.0
Cottonseed-oil foots, raw (50% T. F. A.) delivered, East	3.6	4.0	6.4	5.6	5.2
Tall oil, refined, tanks, works	4.5	6.8	5.8	5.8	5.8
Linseed oil, raw, tank cars, Minneapolis	14.3	29.6	27.3	27.2	27.6
Linseed oil, raw, drums, carlots, N. Y.	15.5	32.5	29.0	29.0	29.4
Oiticica oil, drums, f.o.b. N. Y.	25.5	25.0	24.2	24.0	21.9
Tung oil, drums, carlots, N. Y.	39.0	25.5	25.7	25.8	25.0
Tung oil, tanks, f.o.b. Pacific Coast	---	23.6	24.3	24.2	23.3
Castor oil, No. 3, drums, carlots, N. Y.	14.8	29.2	24.7	23.5	23.5
Castor oil, No. 1, tanks, N. Y.	14.2	29.0	24.2	23.0	23.0
Castor oil, dehydrated, tanks, N. Y.	19.4	32.8	27.2	26.0	26.0
Cod-liver oil, med. U.S.P., bbl., N. Y.	35.2	38.4	33.6	34.5	34.5
Cod oil, Newfoundland, drums, N. Y.	11.9	---	23.3	24.5	24.5
Glycerin, soaplye, basis 80%, tanks, N. Y.	11.5	24.2	25.6	28.0	28.2
INDEX NUMBERS (1935-39 = 100)					
Eight domestic fats and oils (1910-14 = 100)	162	217	276	275	278
Eight domestic fats and oils (.72*)	160	214	272	272	274
All fats and oils (27 items) (.73*)	166	226	278	282	286
All fats and oils, except butter (26 items) (.82*)	155	240	282	293	298
Grouped by origin:					
Animal fats (.69*)	165	207	267	261	265
Marine animal oils (.77*)	171	6/ 377	384	391	392
Vegetable oils, domestic (.84*)	160	280	333	383	383
Vegetable oils, foreign (.88*)	177	268	276	281	284
Grouped by use:					
Butter (.67*)	173	212	273	272	275
Butter, seasonally adjusted (.67*)	190	231	288	296	300
Lard (.78*)	137	188	229	226	226
Other food fats (.84*)	168	265	321	369	370
All food fats (.71*)	168	220	276	285	287
Soap fats (.80*)	150	219	302	282	300
Drying oils (.85*)	174	307	278	278	280
Miscellaneous oils (.71*)	163	299	306	303	301
All industrial fats and oils (.82*)	160	262	290	280	290

Prices compiled from Oil, Paint and Drug Reporter, The National Provisioner, The Journal of Commerce (New York), Chicago Journal of Commerce, and reports of Production and Marketing Administration and Bureau of Labor Statistics. Excise taxes and duties included where applicable. Index numbers of earlier years beginning 1910 are in Technical Bulletin No. 737 (1940) and The Fats and Oils Situation beginning December 1940.

1/ Loose. 2/ Ceiling price. 3/ Three-cent processing tax added to prices as originally quoted. 4/ Bulk, c.i.f.
5/ Tank cars. 6/ Applies to sardine and menhaden oils only.

* Multiply by this factor to convert current index number (1935-39 = 100) to old basis (1924-29 = 100).

THE FATS AND OILS SITUATION

Approved by the Outlook and Situation Board, August 6, 1948

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SUMMARY

The general level of prices of edible fats and oils in the year beginning October 1948 is likely to be moderately lower than a year earlier because production of these fats and oils will increase. Since consumer incomes are expected to remain high, however, prices of food fats probably will stay well above the wartime ceilings.

Estimated 1948 oil crop production based on August 1 conditions indicates that total output of the vegetable oils used chiefly for food--cottonseed, soybean, corn, and peanut--will be substantially larger in 1948-49 than in the current season. This gain will be only partly offset by a slight reduction in lard output resulting from a 3 percent decline in the 1948 spring pig crop.

Prices of drying oils in 1948-49 are not likely to show any major increase above recent levels, despite an expected strong demand for drying-oil products resulting from a continued high rate of industrial production. A relatively abundant supply of drying oils is in prospect for 1948-49 as a result of the large crop of domestic flaxseed. Also, import supplies of tung oil and castor beans probably will continue to be readily available, and substantial quantities of domestic soybean oil can be drawn upon for drying-oil uses.

Output of inedible tallow and grease, the leading soap fats, probably will be moderately smaller in 1948-49 than a year earlier. Production of grease will be adversely affected by reduced hog slaughter. With cattle numbers on farms declining, cattle slaughter and tallow production may be reduced slightly. Imports of coconut oil (including oil equivalent of copra) into the United States probably will be somewhat larger in the year beginning October 1948 than in 1947-48, when Philippine copra production was reduced by unusual typhoon damage to coconut groves. Imports of palm oil also may increase in 1948-49; exports from the Netherlands Indies are likely to rise.

Prices of cottonseed, soybean, corn, peanut, and coconut oils declined sharply in July; those of tung and other fast-drying oils moderately. The index of wholesale prices of 26 major fats and oils, excluding butter, was about 275 in July (1935-39=100) compared with 298 in June and an average of 285 in 1947.

Reflecting the decline in oil prices, prices to farmers for soybeans in mid-July averaged $3.66 per bushel, 24 cents less than a month earlier. However, this was still 69 cents above the 1947-48 low reached in mid-February.

OUTLOOK

Oilcrop Acreage up 3 Percent this Year; Increased Vegetable Oil Production in Prospect

Planted acreages of cottonseed, soybeans, flaxseed and peanuts this year totaled 43.9 million acres compared with 42.7 million acres in 1947. Increases in the acreage of cotton and flaxseed more than offset decreases in the acreage of soybeans and peanuts. The acreage of cotton in cultivation on July 1 this year, 23.7 million acres, was 2.2 million larger than last. Planted acreage of flaxseed, including the area sown in the fall of 1947 for harvest last spring, totals 4.7 million acres, 0.5 million more than in 1947. The acreage of soybeans grown alone for all purposes in 1948 is 11.5 million, 1.4 million less than in 1947. The acreage of peanuts grown alone for all purposes is 4.0 million acres, down 0.1 million from last year.

With an 11-percent increase over 1947 in the acreage of cotton in cultivation July 1 and a record yield per acre indicated by August 1 crop conditions, the production of cotton lint this year is estimated at 15.2 million bales, the largest since 1937. On the basis of the 1943-47 average ratio between output of seed and lint, production of cottonseed in 1948 would be 6,130,000 tons, 31 percent more than last year and well above any year since 1937.

Production of soybeans in 1948 is estimated on the basis of August 1 conditions at 205 million bushels, 24 million bushels more than last year and slightly above the previous peak reached in 1946. The acreage of soybeans harvested for beans is expected to decline about 11 percent this year, but the yield per acre probably will be near 21 bushels compared with only 16.3 bushels last year. Soybeans were planted near the optimum time in most areas last spring, and the weather since planting has been unusually favorable.

Flaxseed production in 1948 is estimated to be 44.5 million bushels, 12 percent larger than in 1947. The planted acreage this year was 13 percent larger than a year earlier. The estimated yield per acre is 9.5 bushels, slightly less than in 1947 but 16 percent above the 10-year average.

The 1948 production of peanuts picked and threshed is expected to be about 2,341 million pounds on the basis of August 1 crop conditions. This is 7 percent larger than last year and the largest of record. The acreage picked and threshed is likely to be about 2 percent less than last year, but the yield per acre is estimated at 701 pounds compared with 646 pounds in 1947. Growing conditions for the peanut crop this summer have been favorable in all major areas.

Output of vegetable oils in 1948-49 will be larger than in 1947-48 if August 1 crop prospects are realized. A crop of over 44 million bushels of flaxseed would produce more than 700 million pounds of linseed oil compared with a production of 581 million pounds in July 1947-June 1948. Production of cottonseed, soybean, corn and peanut oils in the year beginning October 1948 would total about 15 percent more than the 3 billion pounds expected in 1947-48.

Table 2.- Oil crops: Acreage, yield per acre, and production, United States, 1937-48

Item	Unit	Average 1937-41	Average 1942-46	1947	1948 Preliminary
Cottonseed					
Acreage in cultivation July 1	Mil.acres	26.4	20.2	21.5	23.7
Yield per acre in cultivation July 1	Pounds	414	433	435	---
Production	1,000 tons	5,500	4,394	4,679	1/ 6,130
Soybeans					
Acreage grown alone	Mil.acres	8.8	13.1	12.9	11.5
Acreage harvested for beans	Mil.acres	4.1	10.2	11.1	9.9
Yield per acre harvested	Bushels	18.7	18.9	16.3	20.7
Production	Mil.bu.	77	193	181	205
Flaxseed					
Planted acreage	Mil.acres	2.3	4.1	4.2	4.7
Yield per acre planted	Bushels	8.0	8.3	9.6	9.5
Production	Mil.bu.	19.6	34.0	39.8	44.5
Peanuts					
Acreage grown alone	Mil.acres	2.4	4.1	4.1	4.0
Acreage picked and threshed	Mil.acres	1.8	3.2	3.4	3.3
Yield per acre picked and threshed	Pounds	767	650	646	701
Production	Mil.lb.	1,395	2,106	2,188	2,341
4 oil crops					
Planted acreage 2/	Mil.acres	39.8	41.5	42.7	43.9

1/ Forecast of lint production times 5-year average ratio of seed to lint.
2/ Computed from unrounded numbers.

Slight Decline Likely in 1948-49 in Lard, Grease, and Tallow Output

Lard and grease output in the year beginning October 1948 is likely to decline slightly with most of the reduction probably coming in October-December. The spring pig crop this year was about 3 percent smaller than in 1947 and is likely to be marketed later in the fall and winter than in 1947-48. Because of the short corn crop last season, the number of hogs slaughtered under Federal inspection in October-December rose to 56 percent of the total for October-March, compared with a 10-year average of 52 percent.

As farmers' intentions June 1 indicated a reduction of only 1 percent in the 1948 fall pig crop compared with a year earlier, lard and grease production in April-September 1949 may be nearly the same as in the same period of 1948.

The number of cattle on farms has been declining since January 1, 1945, and the number at the beginning of 1949 is expected to be less than a year earlier. The decline has been accompanied by an expectionally high rate of cattle slaughter. Cattle slaughter probably will remain high in relation to prewar until farmers decide to hold back animals to build up herds. With the stock of cattle on hand next January 1 expected to be less than a year earlier, however, cattle slaughter and tallow production in 1949 may be slightly less than in 1948.

Philippine Copra Exports Reduced in First Half of 1948; Recovery Expected

Exports of copra from the Republic of the Philippines in January-June 1948 totaled 344,000 long tons compared with 465,000 a year earlier (table 3). Part of the reduction was due to increased production of coconut oil in the Philippines. Exports of coconut oil in January-June 1948 were 36 million pounds compared with only 1 million pounds a year earlier. However, most of the decline in copra exports resulted from a decrease in production caused by the typhoon in December 1947. Now that the typhoon damage is no longer affecting production, output is beginning to increase. The price of copra at Manila in early August was $235-$240 per long ton compared with $300-$330 in April-June.

Exports of copra from the Netherlands Indies in the first half of 1948 increased nearly 50 percent over a year earlier. However, these exports are still considerably below the prewar rate. The increase over 1947 offset only part of the decline in the Philippine exports. Net exports from the Philippines, the Netherlands Indies, and British Malaya in January-June 1948 totaled about 760 million pounds in terms of oil compared with about 820 million pounds a year earlier.

Prices for copra at local assembly centers in the Netherlands Indies, fixed by the Copra Fund, were increased several times in late 1947 and early 1948. Prices in effect since July 1, 1948 range from $153.00 per long ton for the lowest grade to $172.50 for Grade A sun dried. The price for mixed copra is $164.80 per long ton compared with $57.00 in July 1947. Also, a large supply of textiles, household articles, and other "incentive goods" reached the copra-producing districts of the Netherlands Indies last spring.

Price controls on copra and coconut oil in Singapore and British Malaya were removed last November. Malayan copra and coconut oil have since been priced at the world market level. Malayan copra brings a somewhat higher price than Philippine because of better quality. The fixed price prior to decontrol was $158 per long ton. Since November, exports of copra or coconut oil from Malaya have been permitted without regard to destination, provided the exporter can prove that an equivalent quantity of non-Malayan copra has been imported.

RECENT DEVELOPMENTS

Prices of Vegetable Oils Down in July

Prices of cottonseed, soybean, corn, and peanut oils declined sharply in mid-July, after they had declined more gradually for a month. Quotations for the crude oils, f.o.b. mill, in the first week of August ranged from 20 to 26 cents per pound compared with June averages 5 to 10 cents higher. The declines probably were due largely to anticipation of the approaching seasonal increase in vegetable-oil output and an expected large production in 1948-49.

The price of coconut oil also declined during July with prices of domestic vegetable oils, but in early August was still above the normal relationship to prices of soap fats.

Prices of fast-drying oils also were lower in July than a month earlier, largely because of declining quotations for tung oil in China and relatively large offers of that oil for export to the United States. There was little change in July in prices of animal fats, but early August quotations were down slightly.

The July index number of wholesale prices of 26 major fats and oils, excluding butter, was about 275 (1935-39=100) compared with 298 in June and an average of 285 in 1947. The seasonally adjusted index of the wholesale price of butter in July was 288 (1935-39=100), 12 points less than a month earlier but 48 points above the 1947 average.

Table 3.- Copra and coconut oil: Net imports (+) or net exports (-) from Republic of the Philippines, Netherlands Indies, and British Malaya, recent months with comparative data

Period	Copra (actual weight)	Coconut oil	Coconut oil and copra, in terms of oil 1/
	1,000 long tons	Million pounds	Million pounds
		Republic of the Philippines	
Average 1935-39	-300	-362	-785
1946	-600	-3	-851
1947 2/	-968	-52	-1,419
Jan.-June: 2/			
1947	-465	-1	-657
1948	-344	-36	-521
		Netherlands Indies	
Average 1935-39	-507	-32	-748
1946 (May-Dec.)	3/ -76	3/-*	-108
1947 2/	3/-202	3/-4	-289
Jan.-June: 2/			
1947	3/-103	3/-*	-145
1948	3/-150	3/-7	-218
		British Malaya	
Average 1935-39	-73	-104	-208
1946	+23	-12	+20
1947 2/	+45	-92	-28
Jan.-May: 2/			
1947	+16	-39	-16
1948	+20	-44	-16
		Total, 3 areas	
Average 1935-39	-881	-498	-1,741
1946	-654	-16	-939
1947 2/	-1,125	-148	-1,736
Jan.-June: 2/			
1947	-552	-40	-819
1948 4/	-473	-87	-755

Compiled from reports and records of Office of Foreign Agricultural Relations. Totals computed from unrounded numbers.

1/ Oil equivalent of copra estimated at 63 percent (1,411 pounds per long ton).

2/ Preliminary.

3/ Includes unrecorded shipments to Singapore, estimated as equivalent to imports into Singapore from Netherlands Indies.

4/ January-May only for British Malaya.

* Less than 500,000 pounds.

Table 4.- Wholesale prices per pound of specified fats and oils, July 1948 with comparisons

Item	Average 1947	1948 June	July	August 6
	Cents	Cents	Cents	Cents
Butter, 92 score, Chicago	70.6	80.9	78.6	77.0
Lard, tank car lots, Chicago	22.5	20.5	20.3	20.1
Cottonseed oil, crude, S.E. mills	25.9	35.4	27.5	26.0
Soybean oil, crude, Midwest mills	23.3	27.3	22.1	22.0
Coconut oil, crude, Pacific Coast 1/	20.7	28.8	24.5	22.8
Inedible tallow, prime, Chicago	19.2	15.8	15.8	13.8
Linseed oil, raw, tank cars, Minneapolis	32.8	27.6	27.3	27.2
Tung oil, tank car lots, Pacific Coast	29.0	23.3	21.5	20.6

Compiled from Oil, Paint, and Drug Reporter, The National Provisioner, Chicago Journal of Commerce, and reports of Production and Marketing Administration.
1/ Three cents added to allow for tax on first domestic processing.

Prices received by farmers for soybeans in mid-July averaged $3.66 per bushel, 24 cents less than in mid-June but 69 cents above the February 1947 low. The average price to farmers for cottonseed in mid-July was higher than a month earlier. Prices for peanuts and flaxseed remained practically the same.

Tentative 1948 Import and Export Allocations Revised

Revised tentative 1948 allocations for imports and exports of fats and oils were announced by the Department of Agriculture in late July. The new export allocations total 626 million pounds, 44 million pounds less than those announced last February. The new tentative food fat allocations are reduced 34 million pounds from those announced last February, but allocations of industrial fats (including coconut oil) are increased 30 million pounds. Nearly 40 million pounds of unspecified fats included in the February figures are omitted from the July allocations. Food fat allocations include oil equivalent of shelled peanuts shipped abroad for crushing.

The July tentative import allocations total 732 million pounds, 58 million pounds less than the total for comparable items announced last February. A reduction of 80 million pounds of coconut oil and oil equivalent of copra is partly offset by increases in babassu and palm oils. Import allocations announced last February also included 138 million pounds of castor and oiticica oils (including oil equivalent of castor beans), which have since been removed from international allocation controls.

Table 5.- Fats, oils, oil-bearing materials, and fat-and-oil products (in terms of oil): Tentative import and export allocations for 1948 compared with imports and exports 1947 and January-June 1948

Item	Tentative import allocations for 1948	Imports		Tentative export allocations for 1948	Exports and shipments to U.S. Territories 1/	
		1947	Jan.-June 1948		1947	Jan.-June 1948
	Mil.lb.	Mil.lb.	Mil.lb.	Mil.lb.	Mil.lb.	Mil.lb.
Food fats:						
Butter	---	4	*	---	17	6
Lard	---	*	*	224	418	176
Edible oils, margarine, and shortening	2/ 34	24	34	( )	183	105
Soybeans	---	---	---	(258)	22	20
Peanuts for crushing	---	---	---	( )	75	84
Total	34	27	34	482	715	391
Soap fats and soap:						
Copra and coconut oil	542	877	381	7	84	15
Palm oil	79	63	29	---	12	8
Other soap fats	2/ 50	45	61	83	80	33
Soap	---	*	*	15	70	25
Total	671	986	471	105	246	82
Other industrial						
Linseed oil and flaxseed	18	123	15	39	24	19
Other drying oils	3/ 120	130	76	---	7	4
Nondrying oils and fats	4/ 172	158	90	---	16	7
Total	310	411	181	39	47	30
Estimated 1948 shipments to U.S. Territories, exchanges, voluntary relief shipments, and other quantities not covered by IEFC schedules	50	---	---	175	---	---
Grand total	1,065	1,424	685	801	1,008	503
Net imports	264	415	182	---	---	---

Compiled from press release USDA 1532-48 and reports of the Bureau of the Census. Classification of items the same as in table 12, page 21, this issue of The Fats and Oils Situation. Totals computed from unrounded numbers.

1/ Includes estimated exports through voluntary relief agencies, as follows: 1947--Lard, 2 million pounds; edible oils, 1 million pounds; margarine, 6 million pounds; shortening, 7 million pounds; and soap, 8 million pounds. Jan.-June 1948--Lard, 3 million pounds; edible oils, 1 million pounds; margarine, 4 million pounds; shortening, 1 million pounds; and soap, 5 million pounds.

2/ Allocation of 51 million pounds of olive oil assumed to consist of 34 million pounds of edible oil and 17 million pounds of indeible oil and "foots", in accordance with the prewar percentages of the total.

3/ Estimate for tung and oiticica oils, which are not subject to allocation.

4/ Includes estimate for castor and miscellaneous oils not subject to allocation.

* Less than 500,000 pounds.

On the basis of the July tentative allocations and taking into consideration shipments to United States Territories, exchanges, voluntary relief shipments, etc., gross exports of fats and oils in 1948 would total about 0.8 billion pounds. This includes oil equivalent of soybeans and shelled peanuts for crushing. Gross imports of fats, oils, and oilseeds in terms of oil may total about 1.1 billion pounds, including imports of nonallocated items. This would leave a net 1948 import balance of about 300 million pounds compared with 415 million pounds in 1947 (table 5).

RECENT TRENDS IN DRYING USES OF OILS AND FATS 1/

By S.J. Armore and E.L. Burtis

Drying Uses of Oils Large in 1947; Tall Oil and Secondary Fats in Marked Upward Trend

Use of oils and fats in the drying-oil industries in 1947 totaled 1,011 million pounds, including tall oil and secondary fatty materials, compared with 940 million pounds a year earlier and a peak use of about 1.1 billion pounds in 1941 (table 8). Use of tall oil, fatty acids, and other secondary fatty materials in drying-oil products has increased rapidly in recent years. The total of these materials was 17 million pounds in 1943 (the first year reported by the Bureau of the Census) 54 million pounds in 1946, and an estimated 73 million pounds in 1947.

Estimated use of tall oil in paints, varnishes, and floor coverings was only about 2 million pounds in 1943 but increased to 32 million pounds in 1947 (table 9). Paints and varnishes were the leading drying-oil uses of tall oil until 1947, but in that year linoleum and oilcloth took 19 million pounds of tall oil compared with 13 million pounds in paint and varnish. (These figures do not include fatty acids derived from tall oil.) More tall oil was used in drying-oil products in 1947 than in soap, the principal outlet during the war years. Exports also are a leading outlet for tall oil. There are no export controls on tall oil.

Tall oil is recovered from "black liquor soap," a byproduct of the sulphate process for producing paper pulp from pine wood. Aside from a small percentage of non-acids, refined tall oil usually contains slightly more than 50 percent of oleic and lineolic acids, and slightly less than 50 percent of resin acids.

1/ This article uses information and estimates developed in the course of a study of factors affecting consumption, uses, prices, and production of fats and oils, financed by Research and Marketing Act funds.

Production of tall oil rose from about 23 million pounds in 1937, the first year for which an estimate is available, to 202 million pounds in 1946. There was a slight decline in 1947. Scarcity of fats and oil during the war greatly increased demand for tall oil for use in the manufacture of soap. Use in paint, varnish, and linoleum has continued to increase since the war. Because of its low prices, tall oil probably will continue in competition with fats, oils, and rosin as an important source of fatty acids and resin acids.

The principal secondary fatty materials used in drying-oil products are vegetable-oil fatty acids, fatty acids from tall oil, stearic acid, and red oil or oleic acid. The increase in use of fatty acids in drying-oil products reflects mainly an increase in production of alkyd-resin paints.

Table 6.-Factory consumption of tall oil and secondary fatty materials in drying-oil products, by uses, United States, 1943-47, January - March 1948

Year	Paint and varnish 1/	Linoleum and oilcloth 1/	Printing ink	Other drying-oil products						Total all drying oil uses
				Insulation	Core oil	Hydraulic brake fluid and linings and packings	Resins	Coated fabrics other than oilcloth	Total other products	
	1,000 pounds	1,000 pounds	1,000 pounds	1,000 pounds	1,000 pounds	1,000 pounds	1,000 pounds	1,000 pounds	1,000 pounds	1,000 pounds
1943	10,743	1,326	541	117	153	37	3,501	111	3,919	16,529
1944	19,868	2,035	591	660	6,701	59	3,671	89	11,180	33,674
1945	20,997	972	744	510	9,989	102	4,545	270	15,416	38,129
1946	27,446	4,681	547	73	14,296	724	6,308	382	21,783	54,457
1947	25,617	19,591	634	NA	NA	NA	NA	NA	2/27,000	78,842
1948										
Jan.-Mar.	7,901	4,234	159	NA	NA	NA	NA	NA	NA	NA

Compiled from "Animal and Vegetable Fats and Oils," Bureau of the Census.

1/ Use of tall oil in these products shown separately in table 8.

2/ Estimate; Census data not yet available.

NA Not available.

Supply of Linseed Oil Restricted in 1947; Use of Most other Drying Oils Expanded

Use of linseed oil in drying-oil products in 1947 was 568 million pounds compared with 668 million pounds in 1946. During the first 4 months of 1947, the supply of linseed oil was limited, partly because of the small 1946 domestic flaxseed crop, nearly all of which had been crushed by early 1947. The 1946 crop amounted to only 23 million bushels compared with 35 million bushels a year earlier. Negotiations for 88 million pounds of Argentine linseed oil were completed in early 1947, but shipments of Argentine oil did not reach the United States before April.

The wholesale price of linseed oil (raw tankcars, Minneapolis) rose to 39 cents per pound in March 1947 compared with a wartime ceiling of 14.3 cents per pound; but by June the price declined to about 30 cents a pound and averaged about the same in the latter half of the year. The 1947 flaxseed crop of 40 million bushels provided enough linseed oil to meet the demand since summer 1947 at prevailing prices.

The use of soybean oil in drying-oil products was limited by wartime controls to 33 to 46 million pounds annually in 1942-45. Because of these restrictions, commercial application of prewar technological developments in fractionation and other techniques for improving the drying qualities of soybean oil was posponed. Controls over non-food uses of soybean oil were terminated in October 1946 and in 1947 use of this oil in drying-oil products increased to 159 million pounds, over 2.5 times the 1941 peak.

Expanded use of soybean oil in 1947 was encouraged by a wide difference between prices of soybean and linseed oils and by an increased supply of tung oil, with which soybean oil is frequently blended for paint use. Use of soybean oil also was favored by its ready availability, in contrast to the uncertainty in early 1947 about linseed-oil supplies. The price of soybean oil in 1947 averaged 23 cents per pound (crude, tankcars, Midwestern mills) compared with 33 cents per pound, (raw, tankcars, Minneapolis) for linseed oil.

Total use of fast-drying oils--tung, oiticica, and dehydrated castor oils--increased from 1946 to 1947. Domestic disappearance of tung oil in 1947 nearly doubled to 105 million pounds, as a result of increased imports from China. An unusually small 1946-47 crop of oiticica nuts in Brazil was reflected in a decline in use of oiticica oil in the United States from 25 million pounds in 1946 to 13 million pounds in 1947. Consumption of castor oil in drying-oil products during 1947 increased 16 percent from the year before to 44 million pounds.

Wholesale prices of fast-drying oils averaged 31 cents per pound in 1947, a 1-cent increase over the year before. Prices of dehydrated castor oil and of oiticica oil rose when wartime ceilings were removed in October 1946. But the price of tung oil declined from the ceiling of 38.3 cents per pound (tank cars, Pacific Coast) to a 1947 average of 29.0 cents per pound. The decline was due mainly to an increase in tung oil imports.

Despite the small output of fish oil in 1947, almost 45 million pounds were used in drying-oil products. This was slightly under the amount used the year before and at about the same as before the war.

Use of Oils in Paint Below Earlier Peaks

Paint and varnish manufacture, the major use of drying oils, consumed 704 million pounds during 1947 of which 678 million pounds were primary oils and fats, 13 million pounds were tall oil, and 13 million pounds were secondary fatty materials. The total was surpassed only in 1941 and 1942.

Despite a record peacetime rate of industrial production in 1947, however, the quantity of drying oils consumed by the paint and varnish industry was only slightly larger than in 1937, when industrial production was 40 percent smaller. The increase over prewar was small mainly because of (1) an increase in use of casein and vegetable-protein paints, (2) an increase in use of plastics to replace paint-using materials such as wood and metal, and (3) a reduction in the total amount of drying-oil used per gallon of paint through replacement of part of the raw linseed oil in prewar formulas by a mixture of bodied linseed oil and mineral spirits. Heavy demands for labor in other industries and high prices for building materials may have helped hold down use of oil in drying-oil products. Also, part of the use of oil in alkyd resins, most of which in turn are used in paint and varnish manufacture, appears in the factory consumption statistics as use in miscellaneous industrial products and hence is not included with the use in paints and varnishes.

Use of oils and fats in floor coverings and oilcloth rose to a new peak of 142 million pounds in 1947, compared with 88 million pounds in 1946 and 137 million pounds in 1941, the previous peak. The total for 1947 included 122 million pounds of primary oils and fats and 19 million pounds of tall oil.

Printing inks in 1947 used 24 million pounds of oils and fats compared with 34 million pounds a year earlier. Use of oils and fats in printing inks has varied widely in recent years and has not followed the same pattern of change as have the major uses (table 10).

Estimated use of oils in miscellaneous drying-oil products increased from 39 million pounds in 1941 to 136 million pounds in 1946 and to 142 million pounds in 1947. Such products include core binders, synthetic resins, coated textiles, insulations, brake linings, and caulking compounds.

Large Supply of Drying Oils in Prospect for 1948-49

With the 1948 crop of flaxseed estimated at 44.5 million bushels, potential output of linseed oil from domestic flaxseed in 1948-49 is over 700 million pounds compared with 581 million pounds in the 12 months ended June 1948. Domestic disappearance of linseed oil in 1947-48 was 574 million pounds.

Import supplies of castor beans and tung oil are readily available. Castor beans and oil were removed from IEFC allocation controls last April. Imports of castor beans and oil in the first half of 1948 were about the same as the 69 million pounds, in terms of oil, imported a year earlier. Imports of tung oil in the first 6 months of 1948 were 67 million pounds compared with 77 million pounds brought in a year earlier. Domestic production of tung oil in 1948 will be somewhat larger than last year. Another large production is expected from the crop of tung nuts that will mature next fall.

The 1947-48 crop of oiticica nuts in Brazil is estimated to have been about 33,000 short tons, almost double that of the preceding year and only slightly less than in 1945-46. On the basis of this crop, imports of oiticica oil into the United States in 1948 may be near the 1946 total of 23 million pounds, compared with only 8 million pounds in 1947. Oiticica oil was removed from IEFC allocation controls last April.

Since production of soybean and other edible vegetable oils in 1948-49 is likely to increase materially, the average price of soybean oil probably will be lower than in 1947-48 in relation to the price of linseed oil. The price of linseed oil is to be supported through December 31, 1948, as in the 1947-48 crop year, at 26.7 cents per pound, Minneapolis basis. A relatively low price for soybean oil would tend to increase use in drying-oil products.

Demand for Products Strong But Prices of Drying Oils Unlikely to Increase

Demand for drying-oil products has been exceptionally strong since the war. The Federal Reserve Board index of industrial production, a good measure of this demand, averaged 187 in 1947 (1935-39=100) compared with 170 in 1946 and 162 in 1941, the prewar peak. In the first 5 months of 1948 the index increased to an average of 192 and is expected to remain at a high level into 1949. As a result of this strong demand and the probability of an increased supply of drying oils, utilization of oils and fats in drying-oil products in 1948-49 may increase to about 1.1 billion pounds, including tall oil and secondary fatty materials. This would be 100 million pounds more than in calendar 1947.

Prices of drying oils reached a record in 1947, reflecting the strong demand and relatively scarce supplies. The BAE index number of wholesale prices of drying oils in 1947 averaged 327 (1935-39=100) compared with 175 during most of the war and with 126 in 1941. Even after allowance for the increased general price level, 1947 prices of drying oils were exceptionally high. 1/

1/ The index number of wholesale prices of drying oils, deflated by the Bureau of Labor Statistics index number of wholesale prices of all commodities averaged 174 in 1947 compared with 117 in 1941, the highest prewar year.

Prices of drying oils other than soybean oil declined during the first 6 months of 1948 and in July were 6 to 8 cents per pound below the 1947 averages. The index number of wholesale prices of drying oils in July was 275. The price of linseed oil since February has been one cent or less above the support price of 26.7 cents per pound, Minneapolis. The price for domestic tung oil from 1947-crop tung nuts was supported until July 1, 1948 at 25 cents per pound, f.o.b. mill, but the price of imported tung oil has been below this level since January. With present prospects for increased supplies of drying oils, the general level of drying-oil prices is not likely to show any major increase in 1948-49 above recent weeks.

The price of soybean oil varies more closely with prices of edible oils than with prices of drying oils. During the first half of 1948 the price of soybean oil fluctuated rather widely around the 1947 average, and in early August was about 1 cent below that average.

Table 7.- Wholesale price per pound of major drying oils, 1945, 1947, January-July 1948

Year and month	Linseed oil, tank cars, Minneapolis	Tung oil, tank cars, Pacific Coast	Soybean oil, crude, tank cars, Midwest mills	Castor oil, dehydrated, bodied, tanks, New York	Oiticica oil, drums, New York
	Cents	Cents	Cents	Cents	Cents
1945 1/	14.3	38.3	11.8	17.8	23.7
1947	32.8	29.0	23.3	33.8	28.9
1948					
Jan.	32.2	26.1	26.6	30.0	25.8
Feb.	28.6	24.8	19.6	29.2	24.9
Mar.	27.7	24.8	21.4	28.5	24.2
Apr.	27.3	24.3	24.5	27.2	24.2
May	27.2	24.2	26.3	26.0	24.0
June	27.6	23.3	27.3	26.0	21.9
July 2/	27.3	21.5	22.1	25.7	20.6
Average, Jan.-June	28.4	24.6	24.3	27.8	24.2

Compiled from Oil, Paint and Drug Reporter and Chicago Journal of Commerce.

1/ 1945 prices were at ceilings.

2/ Preliminary.

Table 8 .- Utilization of oils and fats, including tall oil and secondary fatty materials, in drying-oil products, by kind of oil, United States, 1921-48

Year	Linseed oil 1/	Perilla oil 2/	Tung oil 2/	Oiticica oil 2/	Castor oil 3/	Fish oil 4/	Soybean oil 5/	Other primary oils and fats 6/	Tall oil and secondary fatty materials 7/	Total
	1,000 pounds	1,000 pounds	1,000 pounds	1,000 pounds	1,000 pounds	1,000 pounds	1,000 pounds	1,000 pounds	1,000 pounds	1,000 pounds
1921	519,875	652	37,623	---	908	14,141	8,732	---	---	581,931
1922	640,069	2,208	67,694	---	1,251	10,913	5,207	---	---	727,342
1923	677,700	6,441	82,491	---	1,548	15,606	9,396	---	---	793,182
1924	706,968	3,016	78,036	---	1,503	13,507	3,537	---	---	806,567
1925	726,085	6,017	86,705	---	1,762	18,543	5,031	---	---	844,143
1926	714,188	7,401	92,278	---	1,843	15,098	6,495	---	---	837,303
1927	755,516	5,358	84,668	---	2,033	18,255	3,202	---	---	869,032
1928	785,482	2,011	95,367	---	2,518	27,054	2,514	---	---	914,946
1929	788,506	5,574	109,530	---	2,775	21,888	3,211	---	---	931,484
1930	544,292	8,838	99,581	---	2,116	15,298	4,427	---	---	674,552
1931	476,426	12,353	91,160	---	1,936	27,447	10,029	1,261	---	620,612
1932	356,957	12,071	75,081	---	1,608	20,071	12,624	1,921	---	480,333
1933	378,905	26,522	103,704	---	2,466	22,932	15,718	2,494	---	552,741
1934	414,839	24,889	114,930	---	2,678	25,919	14,513	4,063	---	601,831
1935	468,595	64,184	127,622	---	3,858	33,612	18,787	3,935	---	720,593
1936	482,670	112,392	118,894	2,892	4,794	40,833	19,292	10,452	---	792,219
1937	584,822	39,730	148,157	3,631	7,722	45,604	18,828	2,723	---	851,217
1938	486,828	41,894	90,295	5,301	6,043	30,653	21,784	2,080	---	684,878
1939	557,855	52,158	105,596	18,867	11,844	43,599	33,353	2,179	---	825,451
1940	586,585	19,514	66,937	15,537	24,857	46,894	46,260	2,811	---	809,395
1941	808,641	8,575	68,515	*26,785	46,295	56,539	62,410	3,647	---	*1,081,407
1942	820,253	2,731	8/ 11,830	8/ 9,196	62,756	31,779	33,422	1,957	---	973,924
1943	757,693	1,990	8/ 12,047	8/ 3,602	24.991	34,188	38,974	1,573	16,529	891,587
1944	688,373	8/ 489	8/ 10,109	10,741	90,037	47,178	36,648	1,400	33,674	918,649
1945	639,640	8/ 193	22,672	19,389	66,658	57,252	45,757	2,572	38,129	892,262
1946	668,230	8/ 78	35,632	25,245	38,233	46,363	66,925	5,115	54,457	940,278
1947 9/	567,802	8/ 33	104,825	12,636	43,529	44,762	158,812	5,717	10/ 72,842	1,010,958
1948 - Jan.- Mar. 9/	142,892	8/ 6	39,399	1,560	12,398	8,499	43,248	1,664	10/ 20,000	269,666

Compiled from reports of Bureau of the Census and Fish and Wildlife Service.

1/ 1919-30, total domestic disappearance; 1931-48, total domestic disappearance minus (1) factory consumption in food products and soap, (2) fifteen percent of factory consumption in miscellaneous products, and (3) loss, if any.

2/ 1919-30, total domestic disappearance; 1931-48, total domestic disappearance minus (1) factory consumption (if any) in food products and soap, and (2) loss.

3/ 1919-30, four percent of total domestic disappearance; 1931-48 factory consumption in drying-oil industries with the addition, beginning 1942, of 10 percent of use in miscellaneous products. This use is estimated as factory consumption in miscellaneous products plus the difference between total domestic disappearance and total factory consumtpion in all products.

4/ 1919-30, twenty percent of total domestic disappearance; 1931-48, factory consumption in drying-oil industries plus 1 percent of use in miscellaneous products, 1931-41, and 6.5 percent of such use in 1942-48. Use in miscellaneous products is estimated as factory consumption in these products plus the difference between total domestic disappearance and total factory consumption in all products.

5/ 1919-30, twenty-five percent of total domestic disappearance; 1931-48, factory consumption in paints, varnishes, linoleum, oilcloth, and printing inks, plus 55 percent of factory consumption in miscellaneous products.

6/ Factory consumption in paints, varnishes, floor coverings, oilcloth, and printing inks.

7/ Factory consumption in paints, varnishes, floor coverings, printing inks, core oil, resins, insulation, hydraulic brake fluid, linings, packings, and oilcloth and other coated fabrics.

8/ Factory consumption.

9/ Preliminary.

10/ Partly estimated.

* Revised.

Table 9. .-Tall oil, crude basis: Production, stocks, exports, domestic disappearance, and utilization by classes of products, 1937-48

Year and quarter	Production 1/	Beginning stocks 2/	Exports 3/	Domestic disappearance	Utilization					
					Soap	Paint and varnish	Linoleum and oilcloth	Lubricants and grease	Other products 4/	Refining loss 5/
	1,000 pounds	1,000 pounds	1,000 pounds	1,000 pounds	1,000 pounds	1,000 pounds	1,000 pounds	1,000 pounds	1,000 pounds	1,000 pounds
1937	22,600	NA	NA							
1938	17,300	NA	NA							
1939	23,900	NA	NA							
1940	34,200	NA	NA							
1941	49,500	NA	11,224	38,300						
1942	72,500	NA	20,899	51,600						
1943	125,300	NA	8,029	117,300	10,700	2,000	NA	8,900	NA	NA
1944	158,306	NA	6,329	151,977	29,300	7,200	6/	2,500	104,100	8,800
1945	194,646	NA	6,713	187,933	29,800	6,800	200	1,400	141,900	7,800
1946	201,806	NA	7,719	194,087	25,200	11,400	4,000	1,600	143,300	8,600
1947:										
Jan.-Mar.	66,150	NA	3,047	63,103	4,400	2,200	4,700	500	48,700	2,500
Apr.-June	51,612	NA	10,208	41,404	2,800	1,900	4,500	500	29,700	2,000
July-Sept.	30,748	NA	8,932	21,816	3,771	3,854	4,923	7/ 107	10,913	5,222
Oct.-Dec.	51,008	50,320	8,063	49,698	5,341	4,962	4,672	435	28,205	6,083
Year	199,518	NA	30,250	8/176,021	16,300	12,900	18,800	1,500	117,500	15,900
1948:										
Jan.-Mar.	62,524	43,567	11,365	45,600	4,950	5,177	9/2,689	364	23,938	8,482
Apr.-June		49,126								

Compiled as follows:
Production--
1937 - June 1947, from Naval Stores Report, U. S. Department of Agriculture.
July 1947 - March 1948, Animal and Vegetable Fats and Oils, Bureau of the Census.
Stocks and factory consumption, from Animal and Vegetable Fats and Oils, Bureau of the Census.
Exports, from Foreign Commerce and Navigation of the United States, and reports of the Bureau of the Census.
Disappearance, computed from data on production, stocks, and exports.
Utilization, estimated from domestic disappearance of tall oil, factory consumption of fatty-acid stock (including tall oil) by classes of products, 1943-June 1947, and factory consumption of tall oil by classes of products beginning July 1947.
Totals computed from unrounded numbers.

1/ 1937-43, estimated from data for years beginning April.
2/ Crude oil plus refined oil converted to crude basis by dividing by 0.75.
3/ Converted to crude oil basis by dividing by 0.75; most exported tall oil is refined. 1941-44, designated as liquid sulphate wood resin.
4/ Includes unreported domestic disappearance (the difference between total domestic disappearance and total reported factory consumption plus refining loss).
5/ 1944-June 1947, 25 percent of factory consumption of crude oil in refining; July 1947-March 1948, factory consumption of crude oil in refining minus production of refined oil.
6/ Included in "other products".
7/ Refined tall oil; use of crude tall oil not reported separately but included in "other products".
8/ Takes into account the reduction of stocks in October-December.
9/ Crude tall oil; refined tall oil not reported separately but included in "other products".

Table 10.-Utilization of oils and fats in drying-oil products, by type of product, United States, 1931-48

Year	Paint and varnish	Floor coverings and oilcloth	Printing inks	Other	Total
	1,000 lb.	1,000 lb.	1,000 lb.	1,000 lb.	1,000 lb.
1931	524,909	73,473	13,284	8,946	620,612
1932	406,367	57,515	10,431	6,020	480,333
1933	461,142	69,938	13,419	8,242	552,741
1934	506,091	67,811	15,544	12,385	601,831
1935	608,788	80,831	18,000	12,974	720,593
1936	652,064	101,334	20,206	18,615	792,219
1937	701,014	101,380	26,213	22,610	851,217
1938	564,773	84,100	21,884	14,121	684,878
1939	675,973	107,721	22,873	18,884	825,451
1940	654,175	111,813	21,178	22,229	809,395
1941	*876,396	136,840	29,319	38,852	*1,081,407
1942	774,485	116,235	17,339	65,865	973,924
1943	698,859	75,792	23,024	93,912	891,587
1944	688,134	85,444	30,611	114,460	918,649
1945	656,075	78,879	38,034	119,274	892,262
1946	681,972	88,306	33,593	136,407	940,278
1947 1/	703,806	141,892	23,706	2/ 141,554	1,010,958
1948 -					
Jan.-Mar. 1/	186,519	42,039	6,062	2/ 35,046	269,666

Paint, varnish, floor coverings, oilcloth, and printing inks, compiled as in table 11.

Other (core oils, synthetic resins, insulation, linings and packings, coated fabrics other than oilcloth, caulking and other protective coatings)--

Primary fats and oils, estimated from total use in miscellaneous industrial products (including fatty acids, sulfonated oils, lubricants, and greases) by applying the following percentages: Linseed oil, 85 percent; perilla, tung, and oiticica oils, 100 percent; castor oil, 10 percent beginning in 1942; fish oil, 1 percent in 1931-41 and 6.5 percent in 1942-48; soybean oil, 55 percent. For fish and castor oils, total use in miscellaneous industrial products is assumed to include not only factory consumption as reported for such products but also the difference between total domestic disappearance and total factory consumption.

Tall oil and secondary fatty materials, from column 9, table 6 (page 12).

1/ Preliminary.

2/ Partly estimated.

* Revised.

Table 11 - Estimated consumption of oils and fats in specified drying-oil products, average 1937-41, annual 1943-47, January-March 1948

Item	Average 1937-41	1943	1944	1945	1946	1947 1/	Jan.-Mar. 1948 1/
	1,000 lb.	1,000 lb.	1,000 lb.	1,000 lb.	1,000 lb.	1,000 lb.	1,000 lb.
	Paints and varnishes						
Linseed oil 2/	495,618	611,089	516,461	477,570	503,001	420,444	103,495
Fish oil	27,875	25,153	37,880	42,993	36,290	34,431	6,782
Tung oil 2/	87,541	3/ 9,667	3/ 8,084	18,042	32,128	85,444	30,946
Soybean oil	24,894	20,462	19,105	25,624	30,435	89,496	24,922
Castor oil, dehydrated	(18,606	12,674	63,813	44,245	24,546	27,687	8,230
Castor oil, No. 1 and No. 3	(	3,673	12,643	7,703	4,143	5,126	1,500
Oiticica oil 2/	4/ 13,399	3/ 2,668	8,824	16,505	19,564	10,343	1,199
Coconut oil	887	37	32	24	219	511	246
Cottonseed oil	108	161	74	174	129	38	12
Perilla oil 2/	24,504	1,666	3/ 411	3/ 161	3/ 73	3/ 26	3/ 3
Corn oil	277	29	18	18	14	9	1
Rapeseed oil	108	29	12	9	4	3	---
Other vegetable oils 5/	307	673	854	1,913	3,814	4,532	1,236
Marine mammal oil	30	---	---	28	60	36	34
Tallow, inedible	174	13	7	44	45	22	2
Grease	117	99	41	25	55	38	9
Other animal oils 6/	23	23	7	---	6	3	1
Total, primary oils and fats	694,466	688,116	668,266	635,078	654,526	678,189	178,618
Tall oil and secondary fatty materials	N.A.	10,743	19,868	20,997	27,446	25,617	7,901
Grand total	694,466	698,859	688,134	656,075	681,972	703,806	186,519
	Linoleum and oilcloth						
Linseed oil	77,213	72,378	79,994	66,586	66,427	85,699	27,404
Soybean oil	5,179	273	48	6	6,508	23,297	5,621
Fish oil	15,536	1,489	1,926	6,359	5,128	4,568	1,539
Oiticica oil	7/ 563	---	1	639	2,577	118	72
Castor oil, dehydrated	(368	211	890	755	640	617	151
Castor oil, No. 1 and No. 3	(	113	549	1,218	1,860	2,568	769
Tung oil	3,810	---	---	2,337	104	5,244	2,217
Perilla oil	5,698	2	---	---	---	---	---
Other vegetable oils 5/	1	---	---	---	381	190	32
Marine mammal oil	---	---	---	6	---	---	---
Other animal oils 6/	1	---	1	1	---	---	---
Total, primary oils and fats	108,371	74,466	83,409	77,907	83,625	122,301	37,805
Tall oil and secondary fatty materials	N.A.	1,326	2,035	972	4,681	19,591	4,234
Grand total	108,371	75,792	85,444	78,879	88,306	141,892	42,039
	Printing inks						
Linseed oil	19,065	21,362	27,477	34,042	30,409	19,336	5,079
Castor oil, dehydrated	(378	29	220	323	138	100	57
Castor oil, No. 1 and No. 3	(	213	1,515	1,661	618	426	113
Tung oil	2,328	17	27	156	521	1,397	387
Oiticica oil	7/ 62	11	219	444	500	143	14
Fish oil	223	112	109	282	359	209	88
Soybean oil	108	48	23	29	108	1,119	71
Cottonseed oil	166	65	1	7	8	4	1
Perilla oil	1,474	182	76	23	5	7	3
Corn oil	7	3	5	5	5	---	---
Other vegetable oils 5/	6	5	12	20	19	11	4
Grease	452	387	292	269	297	270	72
Lard	6	10	13	7	23	20	5
Tallow, inedible	7	12	13	10	15	14	5
Marine mammal oil	7	2	5	5	12	8	2
Other animal oils 6/	5	25	13	7	9	8	2
Total, primary oils and fats	24,293	22,483	30,020	37,290	33,046	23,072	5,903
Tall oil and secondary fatty materials	N.A.	541	591	744	547	634	159
Grand total	24,293	23,024	30,611	38,034	33,593	23,706	6,062

Compiled from reports of the Bureau of the Census, except as otherwise noted.

1/ Preliminary. 2/ Factory consumption in paint and varnish reported by the Bureau of the Census, plus the difference between total domestic disappearance and total factory consumption. 3/ Factory consumption. 4/ 1937-40, estimated as difference between imports for consumption of oiticica oil and reported use of "other vegetable oils" (assumed to be oiticica oil) in linoleum, oilcloth, and printing inks. 5/ Includes palm oil, palm-kernel oil, peanut oil, olive oil, inedible, and "other vegetable oils." 6/ Neat's-foot oil, oleo oil, oleostearine and edible tallow. 7/ Reported as "other vegetable oils"; assumed to be oiticica oil.

Table 12.- Imports and exports of fats, oils, oil-bearing materials, and fat-and-oil products, in terms of oil, average 1937-41, annual 1947, and January-May 1947 and 1948

Item	Imports for consumption				Exports 1/			
	Average 1937-41	1947	January-May		Average 1937-41	1947	January-May	
			1947	1948 2/			1947	1948 2/
	Mil. lb.	Mil. lb.	Mil. lb.	Mil. lb.	Mil. lb.	Mil. lb.	Mil. lb.	Mil. lb.
Food fats and oils								
Butter	3.8	3.8	3.8	3/	9.5	4/17.3	4/ 4.6	4/ 5.2
Lard	3/	3/	3/	3/	272.7	415.6	172.3	155.8
Oleo oil	---	---	---	---	3.8	.1	.1	.1
Oleo stock	---	---	---	---	2.9	1.4	3/	3/
Stearine, animal, edible	1.0	---	---	---	.3	.2	.1	---
Tallow, edible	2.9	---	---	---	.2	.6	.1	1.2
Total, edible animal fats	7.7	3.8	3.8	3/	289.4	435.2	177.2	162.3
Corn oil	14.2	---	---	---	.3	.4	3/	3/
Cottonseed oil	72.1	1.0	3/	1.4	11.0	12.8	1.9	22.8
Cottonseed (15.5 percent)	---	---	---	---	---	2.1	1.8	1.3
Olive oil, edible	48.5	11.2	4.2	14.2	---	.1	.1	.1
Peanut oil	18.1	.1	.1	.1	2.4	2.2	3/	.7
Peanuts, shelled (43 percent)	---	---	---	---	---	74.8	35.2	79.4
Sesame oil	9.9	.2	.2	1.0	---	---	---	---
Sesame seed (47 percent)	4.8	4.5	2.8	5.8	---	---	---	---
Soybean oil	7.0	.1	3/	.2	10.5	110.0	27.4	55.4
Soybeans (15 percent)	---	---	---	3/	30.9	22.5	14.1	18.9
Sunflower oil	.8	3/	---	3/	5/	.1	3/	---
Teaseed oil	10.0	6.4	4.0	1.1	---	---	---	---
Vegetable oils, shipments to U. S. Territories	---	---	---	---	8.5	8.3	4.9	3.4
Total, edible vegetable oils	183.4	23.5	11.3	23.8	63.6	233.3	85.4	182.0
Soap fats and oils								
Fish oils	2.6	3.1	1.9	7.5	2.7	10.9	2.2	6.1
Greases	---	3/	3/	3/	4.5	14.3	2.8	4.0
Marine mammal oils	6/25.4	6/14.9	6/4.5	6/13.4	2.9	.1	3/	3/
Olive oil "foots"	20.2	---	---	7.2	---	.1	.1	.1
Olive oil, inedible	5.5	.2	.2	.1	---	3/	3/	3/
Palm oil	301.2	63.2	19.2	26.5	17.3	11.7	3.3	8.1
Tallow, inedible	7.7	1.1	.4	.6	1.5	55.1	11.7	13.1
Total, slow-lathering oils	362.6	82.5	26.2	55.3	28.9	92.2	20.1	31.4
Babassu oil	.4	1.7	1.0	1.2	---	---	---	---
Babassu kernels (63 percent)	48.9	14.0	12.6	16.5	---	---	---	---
Coconut oil	362.8	23.6	11.7	38.0	33.4	61.6	24.3	13.3
Copra (63 percent)	335.9	853.9	405.1	283.8	27.8	21.7	18.5	.3
Murumuru kernels (36 percent)	1.2	3/	3/	---	---	---	---	---
Palm-kernel oil	28.8	2.4	---	5.3	---	---	---	---
Palm-nut kernels (45 percent)	14.8	3/	3/	3/	---	---	---	---
Tucum kernels (43 percent)	2.4	7.3	5.6	4.1	---	---	---	---
Total lauric-acid oils	795.2	902.9	436.0	348.9	61.2	83.3	42.8	13.6
Drying oils								
Flaxseed (34 percent)	351.7	5.5	1.5	9.8	---	.3	.2	.3
Linseed oil	.1	117.3	81.9	2.9	3.3	24.0	.4	14.9
Oiticica oil	16.0	8.5	6.1	6.0	---	---	---	---
Perilla oil	28.9	---	---	---	---	---	---	---
Perilla seed (37 percent)	.5	---	---	---	---	---	---	---
Tung oil	100.4	121.6	64.3	60.0	5.0	7.2	1.9	3.4
Total drying oils	497.6	252.9	153.8	78.7	8.3	31.5	2.5	18.6
Other industrial oils and fats								
Cashew-nut shell liquid (oil)	2.7	3.4	1.5	3.0	---	---	---	---
Castor oil	.5	6.6	6.1	1.1	1.0	3.4	.5	.6
Castor beans (45 percent)	95.0	124.6	55.1	55.6	---	---	---	---
Fish-liver oils	46.7	17.0	5.9	11.1	---	9.2	4.0	4.0
Japan wax (tallow)	3.0	---	---	3/	---	---	---	---
Neat's-foot oil	---	.1	3/	3/	.6	1.1	.1	3/
Rapeseed oil	10.3	5.8	2.6	3.5	---	3/	3/	3/
Vegetable tallow	2.7	.1	---	---	---	---	---	---
Wool grease	3.0	.1	.1	3/	---	---	---	---
Other vegetable oils and fats	---	.1	3/	.6	13.2	2.0	.5	1.2
Total, other industrial	163.9	157.8	71.3	74.9	14.8	15.7	5.1	5.8
Manufactured products (fat content)								
Margarine 7/	1.9	---	---	.1	1.3	19.9	10.3	3.1
Shortening	1.4	3/	3/	3/	8.0	10.3	5.4	3.9
Soap	2.8	.4	.3	.2	30.8	62.4	29.5	16.5
Total, manufactured products	6.1	.4	.3	.3	40.1	92.6	45.2	23.5
Exports through private relief agencies	---	---	---	---	---	24.3	6.7	12.2
Grand total 8/	2,016.7	1,423.6	702.9	582.1	506.3	1,008.4	384.8	449.2

Compiled from Monthly Summary of Foreign Commerce of the United States, records of the Bureau of the Census, and reports of the U. S. Department of Agriculture.

1/ Includes shipments to U. S. Territories of butter, lard, and manufactured products; reexports of coconut, palm, and tung oils, olive-oil foots, and copra; and reexports in 1947 of certain quantities of linseed oil reported in imports for consumption. 2/ Preliminary. 3/ Less than 50,000 pounds. 4/ Includes actual weight of butter oil and spreads (Army). These were not reported separately prior to 1945. 5/ Not reported separately. 6/ Sperm-whale oil except 1937-41 average, which includes 13.6 million pounds of sperm-whale oil. 7/ Imported margarine goes largely to Puerto Rico and the Virgin Islands. 8/ Computed from unrounded numbers.

Table 13 .- Fats and oils, including oleomargarine and shortening: Factory production from domestic and imported material, January-May 1948, and factory and warehouse stocks at the end of the month, May 1948, with comparative data

Items grouped by major use	Production				Stocks (crude basis)		
	May 1947	May 1948	January-May 1947	January-May 1948	May 31, 1947	April 30, 1948	May 31, 1948
	Million pounds	Million pounds	Million pounds	Million pounds	Million pounds	Million pounds	Million pounds
Food fats and oils							
Butter 1/	146.5	132.5	562.8	478.7	17.4	4.4	18.6
Lard and rendered pork fat 2/	144.2	122.3	755.2	687.8	211.2	187.4	203.9
Oleo oil, edible animal stearine, and edible tallow	15.2	7.3	85.6	51.1	23.3	9.2	8.7
Total edible animal fats	305.9	262.1	1,403.6	1,217.6	251.9	201.0	231.2
Corn oil 3/	21.7	15.5	108.3	78.6	22.9	13.1	13.0
Cottonseed oil 3/	35.1	47.7	379.7	514.7	268.2	239.9	179.5
Olive oil, edible	---	---	1.9	2.3	2.5	2.9	2.4
Peanut oil 3/	11.7	19.0	89.2	72.7	57.0	32.8	33.1
Sesame oil	4/	4/	4/	4/	1.9	.5	1.1
Soybean oil 3/	135.9	128.8	715.0	695.1	230.7	194.0	180.5
Total edible vegetable oils	204.4	211.1	1,294.1	1,363.4	583.2	483.2	409.6
Soap fats and oils							
Tallow, inedible	102.7	89.9	471.3	472.8	160.5	202.0	201.2
Grease, excluding wool grease	46.6	45.4	230.3	227.7	77.4	118.6	116.1
Palm oil 3/	---	---	---	---	14.6	20.4	19.0
Fish oil	1.0	3.9	4.5	6.2	42.8	35.4	32.2
Marine mammal oils	---	---	---	---	5.0	9.4	21.3
Olive oil, inedible and "foots"	---	---	4/	4/	.6	5/ .1	5/ .1
Total slow-lathering oils	150.3	139.2	706.1	706.7	300.9	385.9	389.9
Babassu oil 3/	4/	4/	4/	5/ 11.5	3.1	6/ 4.5	7.3
Coconut oil 3/	68.4	45.4	348.0	309.9	158.8	111.7	116.4
Total lauric-acid oils	68.4	45.4	348.0	321.4	161.9	116.2	123.7
Drying oils							
Castor oil, dehydrated 7/	1.0	4.6	15.5	19.3	7.9	6.8	8.1
Linseed oil	25.1	52.9	150.6	257.3	134.6	134.5	131.4
Oiticica oil	---	---	---	---	5.1	3.2	4.5
Tung oil	1.5	1.3	10.2	11.9	56.3	52.6	49.4
Total drying oils	27.6	58.8	176.3	288.5	203.9	197.1	193.4
Other industrial oils and fats							
Neat's-foot oil	.2	.1	1.0	.7	1.2	.9	.9
Wool grease	2.0	1.7	9.7	9.3	7.4	8.2	8.5
Cod oil and fish-liver oils	.3	.4	2.2	1.5	10.0	10.2	10.1
Castor oil, No. 1 and No. 3 8/	8.4	5.1	42.2	40.3	22.3	29.7	29.6
Rapeseed oil	4/	---	4/	---	6.1	7.0	7.0
Other vegetable oils	4.4	5.3	13.8	13.3	6.6	14.6	12.8
Total	15.3	12.6	68.9	65.1	53.6	70.6	68.9
Grand total, primary fats and oils 9/	771.9	729.3	3,997.2	3,962.7	1,555.5	1,453.9	1,416.6
Oleomargarine 10/	37.8	83.9	290.3	398.1	N. A.	4.1	6.5
Shortening	63.2	124.1	562.6	599.2	50.0	51.4	56.8

Compiled from reports of the Bureau of the Census, except as noted. Data include stocks held by the Government in reported positions.

1/ Creamery butter production and cold-storage stocks, U. S. Department of Agriculture.
2/ Federally inspected production, USDA.
3/ Stocks, crude oil plus refined oil converted to crude basis by dividing by the following factors: Babassu, corn, cottonseed, palm, and palm-kernel oils, 0.93; coconut, peanut, and soybean oils, 0.94.
4/ Included in "Other vegetable oils."
5/ Incomplete; partly included in "Other vegetable oils."
6/ Crude oil only.
7/ Converted to crude basis by dividing by 0.88.
8/ Estimated quantity used in manufacture of dehydrated castor oil excluded from production.
9/ Computed from unrounded numbers.
10/ Bureau of Internal Revenue.

Table 14.- Price received by farmers and prices at terminal markets for specified oil-bearing materials and oilmeals, June 1946 and 1947, April-June 1948

Item	Unit	June 1946	June 1947	1948 April	1948 May	1948 June
		Dollars	Dollars	Dollars	Dollars	Dollars
		Oil-bearing materials				
Castor beans, Brazilian ports ...	Long ton	1/ 118.00	170.00	167.00	150.00	138.12
Copra, Philippine, c.i.f. Pacific Coast ...	Short ton	---	161.25	307.50	320.00	315.00
Cottonseed, United States average	Do.	51.50	79.60	89.40	90.70	92.20
Flaxseed, No. 1, Minneapolis ...	Bushel	3.35	6.12	6.04	6.09	6.09
Flaxseed, United States average..	Do.	3.11	5.92	5.76	5.81	5.82
Peanuts, No. 1, shelled, Spanish Southeastern shipping points ..	100 lb.	14.75	15.50	16.88	16.88	17.00
Peanuts, United States average...	Do.	8.83	9.99	10.20	10.40	10.40
Soybeans, No. 2 Yellow, Chicago..	Bushel	---	---	3.86	4.02	---
Soybeans, United States average..	Do.	2.17	3.07	3.64	3.74	3.90
		Oilseed meals 2/				
Copra meal, Los Angeles 3/.......	Short ton	59.50	72.50	83.60	90.10	93.10
Cottonseed meal, 41 percent protein, Memphis ...	Do.	62.75	71.30	80.55	80.55	86.80
Cottonseed meal, 41 percent protein Chicago ...	Do.	68.75	---	88.90	89.60	96.25
Linseed meal, 34 percent protein, Minneapolis ...	Do.	4/ 59.25	70.00	72.10	71.25	73.50
Linseed meal, 34 percent protein New York ...	Do.	63.00	80.60	84.25	83.90	85.55
Peanut meal, 45 percent protein f.o.b. Southeastern mills	Do.	67.25	71.88	85.25	81.60	81.00
Soybean meal, 41 percent protein, Chicago ...	Do.	66.00	76.30	86.20	86.60	94.25

Compiled from Oil, Paint and Drug Reporter, Daily Market Record (Minneapolis), Chicago Journal of Commerce, reports of the Bureau of Agricultural Economics, and records of Production and Marketing Administration.

1/ C.i.f. first port of arrival.
2/ Bagged, carlots.
3/ Original quotations adjusted to bagged-carlots basis.
4/ 32 percent protein.

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